UNITED STATES DEPARTMENT OF AGRICULTURE,
BUREAU OF PLANT INDUSTRY,
OFFICE OF FOREIGN SEED AND PLANT INTRODUCTION.

NO. 81.

BULLETIN OF FOREIGN PLANT INTRODUCTIONS.

Oct. 1 to Nov. 30, 1912.

NEW PLANT IMMIGRANTS.

(NOTE: Applications for material listed in this bulletin may be made at any time to this Office. As they are received they are filed, and when the material is ready for the use of experimenters it is sent to those on the list of applicants who can show that they are prepared to care for it, as well as to others selected because of their special fitness to experiment with the particular plants imported.

One of the main objects of the Office of Foreign Seed and Plant Introduction is to secure material for plant experimenters, and it will undertake as far as possible to fill any specific requests for foreign seeds or plants from plant breeders and others interested.)

GENERA REPRESENTED IN THIS NUMBER.

Abroma	34422	Cassia	34367
Alsophila	34429	Castanea	34517
Amarantus	34455-457	Citrullus	34484
	34497	Cudrania	34493
Amygdalus	34515	Foeniculum	34611-612
Aristida	34622	Lansium	34421
Asparagus	34620	Mangifera	34431
Aspidosperma	34357-358	Nephelium	34494
Baccaurea	34495	Prunus	34629
Canarium	34368		34610
Capsicum	34613	Trichosanthes	34512-513

PLATE: Lansium domesticum.

MATTER IN THIS BULLETIN IS NOT TO BE PUBLISHED WITHOUT SPECIAL PERMISSION.

ABROMA AUGUSTA. (Sterculiaceae.) 34422. Seeds from Calabar, Eastern Province. Southern Nigeria. Presented by Mr. Frank Evans, Superintendent of Agriculture. "A large open bush widely distributed throughout the hot moist portions of India, now cultivated in Africa. The bark affords a strong white bast fiber, which is easily separated by retting in water or by decortication. It is readily propagated by cuttings and may be made to yield annually two or three crops of shoots, from 4 to 8 feet long, but requires rich land and plenty of moisture. The fiber which is said to be stronger than sunn hemp is strong, white and clean, and is chiefly used for cordage by the natives." (Watt, Commercial Products of India, and Dodge, Useful Fiber Plants.) For distribution later.

ALSOPHILA CRINITA. (Polypodiaceae.) 34429. Spores of a tree fern from Colombo, Ceylon. Presented by Mr. C. K. Moser, American consul, who received them from the Curator of Hakgala Gardens, Nuwera Eliya, Ceylon. A native Ceylonese species very rarely in cultivation. For distribution later.

AMARANTUS SPP. (Amarantaceae.) 34455-457, 34497. Seeds of two species of amaranth from Saharanpur and Lucknow, India. Presented by Mr. F. W. Popenoe, Altadena, California. "Extensively cultivated throughout India for the sake of the leaves, which are used in the same manner as spinach." (Popenoe.) According to Vilmorin many of the species are equal to spinach in quality and very easy of cultivation. For distribution later.

AMYGDALUS DAVIDIANA. (Amygdalaceae.) 34515. Seeds of the Chinese wild peach from Tientsin, China. Procured through Mr. Samuel S. Knabenshue, American Consul-general. This large quantity of seeds was procured from the original locality where Mr. Frank N. Meyer secured it on his first trip to China, and has been introduced for thorough testing as a hardy stock for stone fruits. For distribution later.

ARISTIDA SP. (Poaceae.) 34622. Seeds of the Bushman grass from the Kalahari desert, South Africa. Presented by Mr. J. Burtt-Davy, Government Agrostologist and Botanist, Department of Agriculture, Union of South Africa, Pretoria. "The seed of this grass is very difficult to obtain, as it

grows in the far western part of the Kalahari desert, and the eastern parts of Great and Little Bushmanland and Namaqualand. Together with the Tsama melon (No.34484) it is the principal stock and game food of the country." (Burtt-Davy.) For distribution later.

ASPARAGUS ACUTIFOLIUS. (Convallariaceae.) 34620. Seeds of a wild asparagus from Nice, Alpes Maritimes, France. Presented by Dr. A. Robertson Proschowsky. "This plant is abundant here in the wild state and the young shoots are gathered and form a regular article of commerce in the market. The shoots are much thinner than those of Asparagus officinalis (in its cultivated form) but are very delicate of taste. The plant grows in the very worst places as concerns absence of soil (in fissures of rocks, high on the slopes of gravel, etc.), as well in the full burning sun as in deep shade and it seems to me that so drought-resistant a plant would be worth introducing for use in desert regions." (Robertson Proschowsky.) For distribution later.

ASPIDOSPERMA SPP. (Apocynaceae.) 34357-358. Seeds from Piracicaba, Brazil. Presented by Dr. Clinton D. Smith, Director, School of Agriculture. Two of the most valuable woods of Brazil, used for building and finishing, as well as for agricultural implements. For distribution later.

BACCAUREA MOTLEYANA. (Euphorbiaceae.) 34495. Seeds from Singapore. Presented by Mr. F. W. Popenoe, Altadena, California. "A tree of rather large size, native of the Malayan region, and commonly planted in gardens in Singapore and Penang. It forms a dense umbrageous head of foliage and is of very symmetrical growth. The leaves are oval, entire, dark green in color, about six inches in length and four inches in breadth. The fruit which is produced in great profusion in long pendant clusters on the old wood is oval, straw colored with a thin grayish tomentum, sometimes with russet patches, with tough, leathery, thick skin, and whitish translucent pulp, soft, melting and very juicy. The flavor is subacid, resembling that of a fully ripe gooseberry, pleasant; season, August to September. It is one of the commonest fruits in the Penang markets. It does not seem to be esteemed by Europeans, however, and cannot be considered to possess more than ordinary merit." (Popenoe.) For distribution later.

CANARIUM OVATUM. (Burseraceae.) 34368. Seeds of pili nut from the Philippine Islands. Presented by Mr. E. D. Merrill, Botanist, Bureau of Science, Manila. "The 'pili' nut is locally very highly esteemed, and is now being exported in considerable quantities. Treated exactly as 'salted peanuts'

the 'pili' cannot be surpassed as a table dish. The nuts are very hard and thick-walled, and rather difficult to crack. The local practice is to crack the nuts, then roast the seeds and remove the thin brown coating after roasting, as it is rather difficult to remove this coating from the fresh seeds." (Merrill.) The pili nut is the triangular double-pointed very hard-shelled nut which has been introduced into the mixed nuts of the holiday season the last year or two. For distribution later.

CAPSICUM ANNUUM. (Solanaceae.) 34613. Seeds of red pepper from Rome. Presented by Dr. Gustav Eisen, San Francisco, Cal. "Ercole giallo or Golden Hercules. Some reach the length of 6 inches by 4 inches in diameter, with flesh from $\frac{1}{8}$ to $\frac{1}{4}$ inch thick. The flesh is sweet, and tender, and can be eaten raw like an apple, or stewed, boiled, roasted, fried in oil, etc. For three months these giant peppers are our best vegetables and in Naples you see whole cartloads sold on the streets. The flesh has rarely any trace of heat, and is frequently as juicy as an apple. This in my opinion is the best, and I have eaten it raw every day for three months without any ill effect." (Eisen.) For distribution later.

CASSIA BEAREANA. (Caesalpiniaceae.) 34367. Seeds from East Africa. Presented by Mr. Pliny W. Keys, Superintendent of the Limpopo district, Methodist Episcopal Missions, Inhambane, Portuguese East Africa. "A small tree attaining 20 to 30 feet, with leaves about 8 to 10 inches long. The seeds are blackish brown, oval, about 7/16 of an inch in length." (E. M. Holmes.) The roots of this tree are said to furnish an unusually valuable remedy for the blackwater fever so much feared in East Africa. For distribution later.

CASTANEA SP. (Fagaceae.) 34517. Seeds of chestnut from Tientsin, China. Procured through Mr. Samuel S. Knabenshue, American Consul-General. A large quantity of chestnuts of a Chinese species which has shown indications of being resistant to the chestnut blight. For distribution later.

CITRULLUS VULGARIS. (Cucurbitaceae.) 34484. Seeds of a watermelon from the Kalahari desert. Presented by Mr. J. Burtt-Davy, Government Agrostologist and Botanist, Pretoria, Transvaal. "Tsama melon, collected in the heart of the Kalahari desert. It is one of the most useful desert plants, being the sole source of water supply for cattle trekking through the desert in the dry winter months; animals which are eating the melons do not seem to require any water. When the water supply of travelers gives out, the moisture is ex-

tracted from these melons for drinking purposes and is often used by humans." (Burtt-Davy.) For distribution later.

CUDRANIA TRILOBA. (Urticaceae.) 34493. Seeds from Augusta, Georgia. Grown from plants introduced by Mr. E. H. Wilson, Arnold Arboretum. "Apparently this fruit will thrive down South, and it is as you say both interesting and beautiful. In China, it occurs throughout the Yangtsze Valley, from river level to 3000 feet altitude. It varies from a small, much-branched thorny bush to a tree 40 or 50 feet high. The fruits are eaten by the Chinese but are not much esteemed. In Szechuan, the leaves are used for feeding young silk worms upon, it being claimed that worms thus fed produce a superior kind of silk to those fed upon mulberry leaves alone. The plant is exceedingly common and by no means new, but I believe with you that there is a future for it in this country, as a hedge plant or ornamental tree, if nothing else." (E. H. Wilson.) For distribution later.

FOENICULUM VULGARE. (Apiaceae.) 34611-612. Seed of fennel from Rome. Presented by Dr. Gustav Eisen, San Francisco, Cal. "Messina finocchio is somewhat similar or rather related to the sweet fennel, but differs in so many respects that I presume it to belong to a distinct species, or at least to a very distinct variety. It is a spring, fall, and winter plant and is eaten from September 15 to about April 1. It loves a moderately damp and warm climate, such as the one in Italy, California and Southern United States, and will probably succeed even in the other states. The part eaten is the lower part of the stalk, as in celery, but the edible part is globular in the best variety, not oblong as in celery. The interior solid part is the best, the outer leaf-stalks being cut away. In order to be tender the plant must be hilled just as celery, either with earth or matting. Plant in beds under cover, beginning in July and continue to February and March. It takes about four months to mature. When six inches tall transplant in beds or rows about 12 inches apart in rich mellow soil. As it grows, hill up with soil, so as to bleach the lower part. Those planted in beds in July and August are eaten in September, October and November. Those planted in February are eaten in April or May. In Rome I notice general planting in gardens, 12 inches each way, in October. The plants are then 12 inches tall. A good finocchio should weigh a pound more or less. The inner tender white part is eaten raw, stewed, boiled or roasted. It is delicious raw like celery. Many, like myself, prefer it to celery. Requires the same soil as celery, and the richer the soil the better the result."(Eisen.) For distribution later.

LANSIUM DOMESTICUM. (Meliaceae.) 34421, 34496. Seeds of the langsat from Mindanao, Philippine Islands, and Singapore, Straits Settlements. Presented by Mr. F. W. Popenoe, Altadena, Cal. "There are two distinct forms of this species, the langsat, or lanzon as it is known in the Philippines, and the duku, or doekoe.

"It is not surprising that little notice has been taken of the existence of these two forms, in view of the fact that the species has received practically no attention from pomologists. The duku, the larger and better of the two, is one of the finest of the Malayan fruits. Although not equal to the mangosteen, or so popular among the natives as the rambutan, it is a common tree in gardens and along the roadsides, and the fruit is common in the markets.

"The duku does not appear to occur in the Philippines, although the langsat is said to be common in the southern islands. In the Federated Malay States, however, it is much more popular than the langsat. The normal form of the duku is spherical; although fairly uniform in shape there is much difference in the size of the fruits, the smallest being not over an inch in length, while the largest are over 2 inches. The skin is slightly furrowed longitudinally, is a dull brownish yellow in color, and covered with grayish tomentum. The skin is quite thick, and although tough and leathery is readily peeled off, exposing the whitish, translucent flesh, divided into 5 segments resembling the cells of an orange, but more easily separated. A small amount of intercellular tissue is usually present, and this must be carefully removed before the fruit is eaten, as it has an intense and disagreeable terebinthine flavor. Three or four of the cells will be found to contain no seeds, or at most only rudimentary ones, and can be eaten entire; the one or two cells which contain perfect seeds are usually larger than the rest, and as the pulp adheres to the seed quite tenaciously, they are more difficult to handle. The flavor of the pulp resembles that of no temperate fruit; it is subacid or sometimes rather acid,aromatic, and very pleasant, unless one happens to obtain a specimen not fully ripe, in which case there is a strong taste of turpentine; like most other Malayan fruits, however, this one has not become popular with Europeans. The duku is produced on small terminal clusters, containing from two to five fruits. As the individual fruits do not ripen at the same time, they are picked separately, with the result that one seldom sees clusters of the fruit in the market.

"The langsat varies from the above description in being oval, produced in larger clusters, and having a much thinner skin, by which characters it can be immediately distinguished.

"During its season the langsat is quite common in the

Manila markets, and sells at a good price. A cluster of the fruits looks not unlike a cluster of loquats, except in the less attractive color. Lansium domesticum is a medium sized, rather slender tree, native of the Malayan archipelago. The compound leaves are made up of six or eight oblong-lanceolate, glabrous leaflets, about 4 inches in length and 1½ inches in breadth, the petiole very short. Except for the difference in the size of the fruit clusters the two forms are, as far as could be ascertained, practically the same in characters of growth and foliage." (Popenoe.) Dr. B. T. Galloway during his brief visit in Java in 1910, was much impressed with the possibilities of this fruit. These impressions agreed with my own made in 1896 and led us to request Mr. Popenoe to make a special examination of its culture in the East Indies. (Fairchild.) For distribution later.

MANGIFERA VERTICILLATA. (Anacardiaceae.) 34431. Seeds of the baúno from the Philippine Islands. Presented by Mr. W. S. Lyon, Manila, who procured them through Mr. P. J. Wester, Horticulturist, Philippine Bureau of Agriculture. "A large tree sometimes exceeding 12 meters in height with a trunk 50 centimeters in diameter, growing in inundated regions in several parts of Mindanao, being particularly abundant around Butuan and in many places in the Agusan Valley and Davao, and occurring also in the Sulu Archipelago. The baúno resembles the mango in habit and appearance though it is somewhat more upright in habit, of sparser foliage, more gnarled, and less attractive in appearance than the mango. The leaves are 12-18 centimeters long, elliptical to lanceolate or oblanceolate, coriaceous, smooth, with a prominent midrib. The flowers are small, blue, and appear in terminal panicles like the mango. There is considerable variation in the appearance, size, and quality of the fruit in the numerous trees. The fruit of the best is somewhat larger than a Carabao mango, from 11 to sometimes exceeding 13 cm. in length, with an equatorial diameter of 7 to 8 cm., oblong oval to pyriform; stem usually inserted obliquely in a more or less irregular sinus; stigmatic area depressed; surface smooth; color yellowish green; lenticels numerous, small; skin very thin and tender, adhering closely to flesh; flesh white, very juicy, rich, sub-acid, quite aromatic, of excellent flavor, partaking somewhat of the flavor of apricot and soursop combined. The one seed is monoembryonic, large, oblong, and encased in matted coarse fibers that penetrate the flesh to more or less extent. The tree blooms in July and August and the fruit ripens in August and September. The largest and best flavored baúnos were obtained in Zamboanga; very good fruits were found in Davao and Butuan and some that were very poor in Butuan and

Surigao. The baúno is evidently very variable pomologically and the trees also seem to differ greatly in productiveness. The excellent flavor of the baúno assures this fruit a place among the tropical fruits on a par with the mango, as soon as a facile method of propagating the species asexually shall have been discovered so that material of the best seedlings may be obtained and systematic breeding begun, reducing the fiber in the fruit. Botanically as well as horticulturally the baúno is a new fruit, having been named and described last year." (Wester.) For distribution later.

NEPHELIUM LAPPACEUM. (Sapindaceae.) 34494. Seeds of the rambutan from Singapore, Straits Settlements. Presented by Mr. F. W. Popenoe, Altadena, Cal. " The rambutan is one of the commonest and at the same time most palatable fruits of the Malayan peninsula. Trees are to be seen in almost every garden in Singapore and Penang and in its season the fruit is hawked everywhere on the streets.

"The tree grows to a height of about forty feet, and when in fruit is a handsome sight, the terminal clusters of bright crimson fruit being produced on every branch. The compound leaves are made up of oblong-ovate leaflets, about four inches in length and an inch and a half wide. In habit of growth the tree appears to be normally rather round-topped and spreading, but as it is frequently planted among numerous other trees it is forced to grow tall and slender, branching only at a considerable height above the ground.

"According to J. D'Almeida Pereira of Singapore there are eight or ten varieties of the rambutan, the difference being in form and coloring. The natives, however, do not distinguish between any of these varieties. Mr. Pereira considers the "Atjenese" variety, which he has propagated by grafting, to be the finest, as it is the sweetest in flavor and the pulp does not adhere to the seed as closely as in most varieties. From his description of this form it would appear that it is nothing less than the species Nephelium mutabile, which although of distinctive appearance from the rambutan, seems to be considered by all the natives as merely a variety of the latter. Among the varieties of the true rambutan the differences do not seem to be very well marked or of great importance.

"In appearance a cluster of rambutans, when highly colored, is exceptionally attractive. The best forms attain, when fully ripe, a rich crimson color, while the poorer ones are greenish or yellowish, sometimes a combination of these two and lacking any tinge of crimson. The individual fruits are

slightly smaller than a hen's egg, but more elongated in form; they are covered with soft spines about a half inch in length, and are borne in clusters of varying size, but rarely containing more than ten or twelve fruits. The pericarp is not thick or tough, and to eat the fruit the basal end is usually torn off, exposing the aril, which with a slight pressure on the apical end of the fruit, slides into the mouth. The flavor is mildly subacid and somewhat vinous, pleasant, but rather lacking in character. An oblong flattened seed is enclosed by the aril." (Popenoe.) For distribution later.

PRUNUS CERASUS. (Amygdalaceae.) 34629. Cuttings of cherry from Prag, Bohemia. Presented by Dr. Bohumil Nemec, at the request of Dr. W. A. Orton, of this Bureau. "A cherry which bears uniformly two to four fruits on a single pedicel and from one flower." (Orton.) For distribution later.

PRUNUS SERRULATA. (Amygdalaceae.) 34610. Cuttings of a Japanese cherry from Kew, England. Presented by Dr. David Prain, Director, Royal Botanic Gardens. A yellow-flowered Japanese flowering cherry. For distribution later.

TRICHOSANTHES ANGUINA. (Cucurbitaceae.) 34512-513. Seeds of the snake gourd from Saharanpur, India. Presented by Mr. F. W. Popenoe, Altadena, Cal. This common Indian and Malayan cucumber-like vegetable, with long fruits up to 6 or 7 feet in length is attracting considerable attention at present in Australia under the name of "guada bean," and small packages of seed are selling for phenomenal prices. The young fruits served like French beans are described as delicious. For distribution later.

NOTES FROM FOREIGN CORRESPONDENTS.

KOREA. Numozu. Miss E. R. Scidmore writes under date of October 3 and 26: "I have your sample of beans. Please remember that I told you and also printed it 'that the people do not nearly know beans' when we can only bake them with pork and make them into the soup, all in connection with the money-making, epoch-making Manchurian bean. I will go into the Adzuki bean question at once. I know that the sweet bean paste, et id genus omnes, are not made from any meal. First 'catch' your bean, soak it all night, cook it 2 hours, strain, mash, work sugar in and use for stuffing of dumplings, add fish gelatine, cook a little and pour in a square box, cut in slabs and you have the yokanyou buy at Nikko, etc., etc.

"I am sure that our American black bean would be as good

as Kuro mame if boiled, water poured off and a 'taste' of salt and a pinch of sugar added to steam into a syrupy coating. Eat them with meat.

"Lima beans or pole beans can match Toroku mame candied. The tough skins are the things to eliminate in all these beans; and beans take the place of chestnuts, which, being three times as dear, are for the uncommonly rich people only.

"I found the factory where they make the seaweed paper for wrapping mizu mame, and the thing is too simple. We threw the factory and the whole village into a spasm by arriving in a motor car. It is the stuff for wrapping nougat and caramels and marron glace-only Kanten (sea weed gelatine) and potato starch smeared on a griddle with a brush - and made round or square as ordered. The man who makes cannot sell, save through his agent in Osaka, whose address I enclose."

INDIA. Dehra Dun. Mr. F. W. Popenoe writes: Oct. 1, 1912. "We have been spending the week here at Dehra with Mr. Hartless, and tomorrow go down to Saharanpur. I am making an effort to obtain all the data in regard to mangos which it is possible to get, particularly in regard to the productiveness of different varieties and pollination , about which youwrote in your letter that reached us at Calcutta. I found it impossible to obtain much data of value at Calcutta although I went through the files in the Museum and took a few notes which I think may be of some use, but Mr. Hartless has gone into the mango more thoroughly than any one else we have struck, and is giving me access to all his records and observations which will, I feel sure, furnish some important facts. I am taking very full notes and will place them at your disposal when I get to Washington next spring. I am also following out your suggestion in regard to getting my lines out so that if I should come back here at some future time to make a canvas of the Indian mangos I could do so. This is a piece of work I should like very much to tackle. You are right in believing that the whole subject is involved in confusion at the present time; I have not, in fact, talked with anyone who knew anything at all about the subject except Mr. Hartless. He is working up the varieties which he is growing at Saharanpur in systematic shape, and has written to a number of other government horticulturists in different parts of India asking them to do the same for their vicinity. I do not believe that many of them have the same amount of energy as Mr. Hartless, however, and am doubtful if a thorough canvas of the whole country could be completed in this way. There is, however, quite an awakening of interest in the subject, and it is quite likely that something will be done by the Government men to publish data regarding the varieties of their own districts, and

also in regard to culture, in the near future.

"We were sorry to find that Mr. Burkhill had left Calcutta to take charge of the Singapore Botanic Garden. Mr. Hooper, of the Museum, received me cordially, however, and I went through all the mango data they had at the Museum; it was not much. I am planning to go down to Poona for a few days after we get through here, and I believe there will be something to be learned there.

"It is the wrong season for seeds here now, and I am not going to be able to collect nearly as many things as I had expected to. I expect to get some interesting things, however, down at Saharanpur and over in the Panjab, and I am also hoping to be able to bring back with me next spring several Wardian cases of plants from here. I have located a number of things I would like to obtain for you that can only be had in the form of plants. I hope to be able to have these packed and forwarded to me at Bombay in the spring, and pick them up there, or, if we should not come back that way, have them sent over to Bahrein."

INDIA. Saharanpur. Mr. A. C. Hartless, Superintendent of the Government Botanical Gardens, United Provinces, writes October 9th concerning the mango question: "Messrs. Paul and Wilson Popenoe have just concluded their visit after spending 10 days with me. Mr. Wilson Popenoe has had full access to my fruit files, especially that of mangos and he, as he says, derived a large amount of information, and has made very copious notes, besides discussing the subject with me and seeing all that could be seen in the gardens.

"To attempt to hunt down the wild progenitor is an herculean task. Although some are of the opinion that such does exist, others again think that it is extinct. One of my colleagues, Mr. Krumbiegel, Superintendent of the Lalbagh Gardens, Bangalore, has an opinion that it exists in the Coorg mountains, and intends to look for it.

"I think however that the question of the number of fertile stamens is definitely settled. I can find no record of other than one stamen to a flower being found. The number of stamens to a flower is however of no moment when one considers the enormous number of flowers on one tree. I have seen the pollen flying in clouds.

"I do not think that you will find that what is called wet regions will have any influence on the pollen, as these regions are invariably dry(normally) at the time of flowering. I have seen an enormous crop of flower, completely made unfertile by rain and mist, or damp easterly wind at the time of flowering. What is required to counteract this, is a mixture of varieties, whose flowering period would vary. Even a day

or two's difference may make all the difference in fertilizing. You will see that from the list I sent you about mango flowers that there is a considerable difference in flowering.

"I have had outlined, life size, drawings made of the fruit of all of our varieties, and I have pleasure in sending you a set. Mr. W. Popenoe has also taken away a set with him. These fruits are on the whole, probably below the average size.

"I a trying to arrange for a similar investigation to be made of mangos all over India, and have enlisted the cooperation of the various Economic Botanists. I hope that in time we shall be able to get together a fairly complete set of drawings and descriptions of the majority of the mangos of India. It is a subject that will well repay the trouble that it involves.

"I have interested Mr. Popenoe in our so-called Country Plums. He has seen specimens in spirit and says that as far as he knows there are nothing like them in America. I have tried to find out where these plums came from, but no one seems to know. Royle called them P. Bokhariensis so they probably came from that direction. Mr. Howard, the Imperial Economic Botanist at Pusa, suggests that possibly your explorer, Mr. Meyer, I think, may have found them in his travels in Northern China.

"I am taking up the peaches and plums next season and will have them done out in a similar way as I have done the mangos.

"We went into the question of the avocado and Mr. Popenoe thinks that they will do well here. We have 2 or 3 trees here that we got originally in 1883 from the Agri-Horticultural Society, Calcutta. They are I believe of average size but so far have not fruited very readily. Their edible qualities have never been properly tested, but I fear that it will not readily "catch on" as it is not a fruit that the natives will take to. At the same time I would be very pleased to extend the experiment, as Mr. Popenoe thinks that we have not a good variety. About 3 years ago I got some Cuban avocado from Reasoner Bros. and these are growing well. Mr. Popenoe has made arrangements for one or more Wardian cases of fruits to take back with him in February or March, some of which he intends for you. If the Wardian case of avocado would come before then, it would be utilized in sending the plants he selected.

"Amongst other fruits that I have drawn Mr. Popenoe's attention to is the China pear, or as it is often called here, country pear. They were taken up with its superior qualities as a stewing or canning pear. Infinitely superior to the Keiffer. I cannot find that the China pear (at least the

variety of it that we appear to have) is much appreciated in America. We also use it largely for stocks. The Bedana (seedless) grape was also another fruit that attracted Messrs. Popenoe's attention. Altogether I am in hopes that these estimable young gentlemen found their visit a fairly profitable one. As a return they have enlightened me as to their conditions in California to the extent that I have almost decided to make it my home when I retire which I hope to do in 3 or 4 years or so."

OMAN. Mascat. Mr. F. W. Popenoe writes, Oct. 29, 1912: "I am just back from Wadi Semail, one of the most interesting trips I ever made, and I am loaded to the guards with facts, and descriptions of 40 varieties of dates, mostly new to science. Best of all, I found there were 1000 or more trees of the Khalas there, so that relieves the situation, and makes it possible, I believe, for me to get this date into California. I had one opportunity to taste the fruit, and it is certainly all that you say it is.

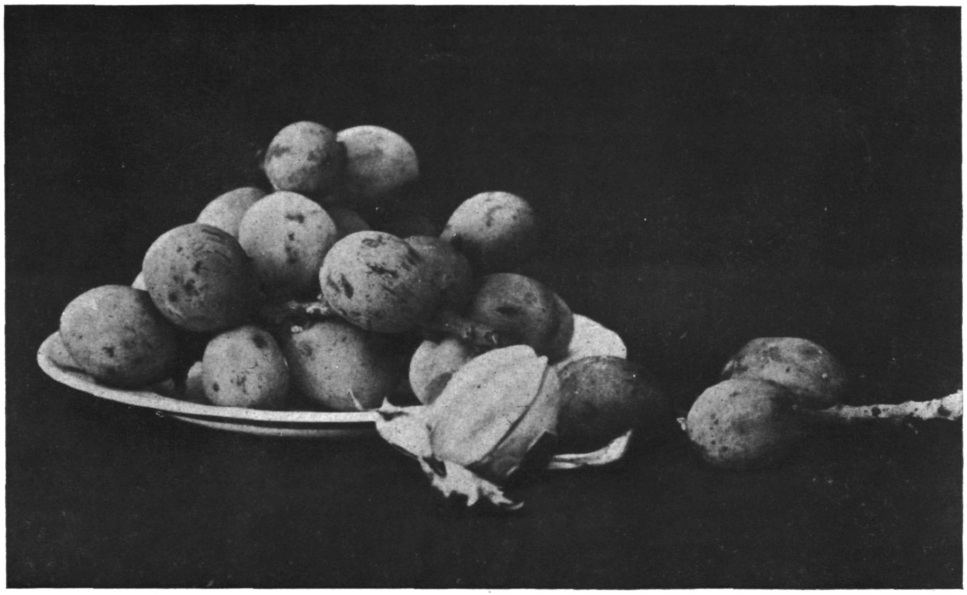
"Most of the plantations there are set out in regular order, a feature that is probably found in no other of the world's great date growing regions, save Morocco; and I suspect this to be the only one where it is the practice to root all offshoots in nursery rows.

"The date season (which lasts 5 months; the var. Hilali is not yet ripe) is the only time of year when the road to Semail is sure to be open, and even then it is an uncertain thing, as I found out by personal experience. It is therefore no certainty that I will be able to get the offshoots out of there when I am ready to ship, but I have every expectation of doing so, in which case I will be able to offer you some very interesting facts.

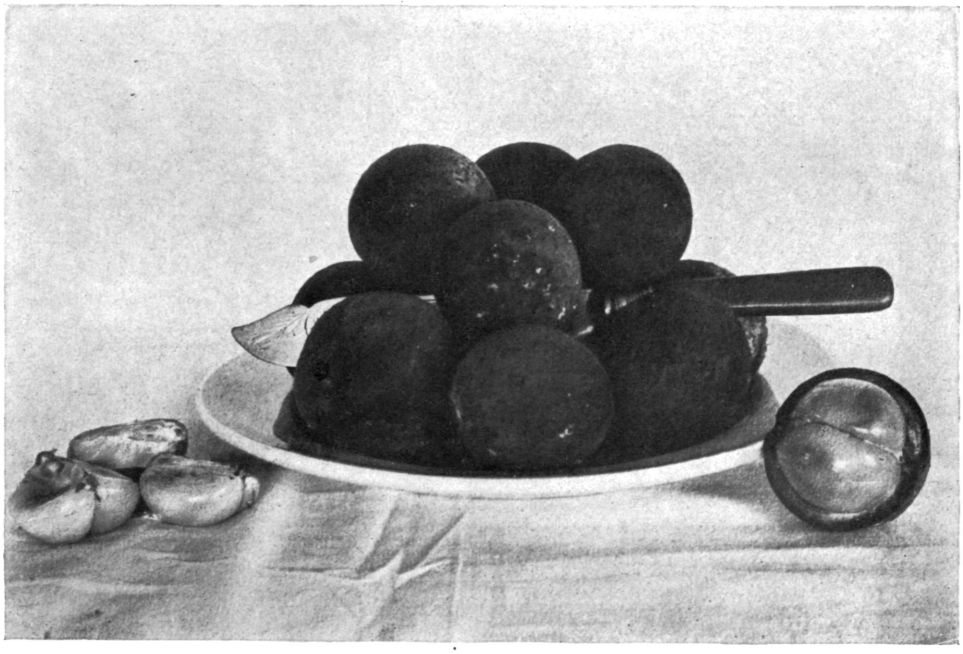
"Mr. Brett, the consul here, went into the valley with me, and we were personal guests of the Sultan - that is what comes from having a little government encouragement.

"We had a caravan of 11 of the Sultan's best camels and everything was made extremely pleasant for us. Unfortunately, Wilson was obliged to stay here with a touch of fever."

(Issued: January 22, 1913.)



LANSIUM DOMESTICUM. Variety known as the langsat. From photograph by Mr. F. W. Popenoe, Penang, 1912. For description see text of this bulletin.



LANSIUM DOMESTICUM. Variety known as the duku or doekoe. From photograph by Mr. F. W. Popenoe, Singapore, Straits Settlements, 1912. For description see text of this bulletin.